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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/651,695	08/29/2003	David John Zanzig	DN2002135	9202

27280 7590 01/19/2005

THE GOODYEAR TIRE & RUBBER COMPANY
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EXAMINER	
LEE, RIP A	

ART UNIT	PAPER NUMBER
1713	

DATE MAILED: 01/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/651,695	ZANZIG ET AL.	
	Examiner	Art Unit	
	Rip A. Lee	1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6 and 9* is/are rejected.

7)☒ Claim(s) *1, 4, 5, 7, 8, 10-16 and 18-20* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *11-07-2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1, 4, and 6-9 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 3, and 5-8 of copending Application No. 10/651,695 (see corresponding U.S. 2004/0116587). Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following reasons.

Present claim 1 is drawn to a tire having at least one component of a rubber composition comprised of (A) 100 phr of elastomer comprised of (1) 30-80 phr of styrene/butadiene elastomer composite and (2) at least 30 phr of *cis*-1,4-polybutadiene rubber and (3) 0-15 phr of an additional diene-based elastomer selected from *cis*-1,4-polyisoprene, 3,4-polyisoprene, and *trans*-1,4-polybutadiene, (B) 35-100 phr of particulate reinforcement comprised of (1) 35-85 phr precipitated silica and (2) 0-15 phr of carbon black, and (C) *bis*(3-triethoxysilylpropyl)

polysulfide coupling agent having an average of 2-2.5 sulfur atoms in the sulfur bridge and exclusive of *bis*(3-triethoxysilylpropyl) polysulfide coupling agent having an average of greater than 3 sulfur atoms in the sulfur bridge.

Claim 1 of the copending application is drawn to a tire having at least one component of a rubber composition comprised of (A) 100 phr of elastomer comprised of (1) 30-80 phr of styrene/butadiene elastomer composite and (2) 20-70 phr of at least one additional diene-based elastomer, (B) 35-100 phr of particulate reinforcement comprised of (1) 35-85 phr precipitated silica and (2) 0-15 phr of carbon black, and (C) a coupling agent, (D) optionally, 2-10 phr of a starch/plasticizer composite, and (E) optionally, a combination of *bis*(3-triethoxysilylpropyl) polysulfide having an average of 2-2.5 sulfur atoms in the sulfur bridge and *bis*(3-triethoxysilylpropyl) polysulfide having an average of 3-4 sulfur atoms in the sulfur bridge.

The styrene/butadiene elastomer composite is the same in both sets of claims.

The difference between the instant claim and that of the copending application lies in the recitation of the elastomer component. The elastomer of the present claim contains at least 30 phr of *cis*-1,4-polybutadiene rubber and 0-15 phr of another diene based elastomer. In contrast, the elastomer of the copending application contains 20-70 phr of at least one additional diene-based elastomer. Although the recitations are not identical, it would have been obvious to one having ordinary skill in the art to use the elastomer of the instant claims and still arrive at the invention recited in the copending application.

A second difference lies in the recitation of the coupling agent. Both claims require use of *bis*(3-triethoxysilylpropyl) polysulfide having an average of 2-2.5 sulfur atoms in the sulfur bridge. Whereas the present claim excludes use of *bis*(3-triethoxysilylpropyl) polysulfide having

an average of more than 3 sulfur atoms in the sulfur bridge, the claim of the copending application recites use of *bis*(3-triethoxysilylpropyl) polysulfide having an average of 3 sulfur atoms in the sulfur bridge. Since neither embodiment contains coupling agent with more than three sulfur atoms in the bridge, it would have been obvious to one having ordinary skill in the art that the subject of the instant claim reads upon the claim of the copending application and *vice versa*. In this connection, it would have been having ordinary skill in the art to use the elastomer of the instant claims and still arrive at the invention recited in the copending application.

Present claims 4 and 6-9 are essentially the same as claims 3 and 5-8 of the copending application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Objections

3. Claim 1 is objected to because of the following informalities: (*i*) the recitation "based on 100 parts by weight of elastomer (phr)" needs to be placed after the word "and" in line 22, (*ii*) replace the word "configuration" on line 14 with "distribution," (*iii*) the term "correspondingly" in line 16 is superfluous (*iv*) the exemplary term "(e.g. silanol groups)" in line 30 needs to be removed. Appropriate corrections are required.

4. Claim 4 is objected to because of the following informalities: (*i*) replace "elastomer" with "copolymer rubber" so that the description of (SBR-2) is consistent with that in the parent claim, (*ii*) in line 27, after the word "butyl," replace "and" with "or" and (*iii*) insert "bound styrene and vinyl 1,2-" after the word "having" on line 28. Appropriate corrections are required.

5. Claim 5 is objected to because of the following informalities: There appears to be a discrepancy in the description of elastomer (I). The claim defines substituent Z^2, implying that elastomer (I) will contain said substituent, but it also indicates that n can equal 2. Such an embodiment would preclude group Z^2 in the molecule. Appropriate correction is required.

6. Claim 10 is objected to because of the following informalities: Correct "pendent" to "pendant." Appropriate correction is required.

7. Claim 12 is objected to because of the following informalities: (*i*) delete the word "and" in line 12, (*ii*) delete the three exemplary phrases beginning with the word "preferably" on lines 20-22, and (*iii*) on line 22, the range of "2 to 8" sulfur atoms in the polysulfidic bridge can not be

possible because claim 1 excludes those compounds having *x* greater than 3, (*iv*) on line 22, it is not clear whether the polysulfidic bridge has "2 to about 2.6" or "about 3.5 to about 4" sulfur atoms; furthermore, claim 1 excludes those compounds having *x* greater than 3, (*v*) in line 29, replace "methoxy and" with "methoxy or, (*vi*) on page 22, lines 2-3, replace "one" with the numeral "1," replace "through" with "to," and replace "zero" with the numeral "0." Appropriate corrections are required.

8. Claim 13 is objected to because of the following informalities: There appears to be a discrepancy in the description of organomercaptosilane (IV). The claim defines substituent R^7, implying that the substituent is necessarily present, but it also indicates that *n* can equal 3. Such an embodiment would preclude group R^7 in the molecule. Appropriate correction is required.

9. Claim 16 is objected to because of the following informalities: Remove the term "mercaptopropyltrimethoxysilane" on line 24 since it has been recited in line 22. Appropriate correction is required.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 2, 3, and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. There is insufficient antecedent basis for the limitation "1,3-butadiene rubber" in the claim. Since there are several rubber components in the parent claim, it is not clear which species the typographical error refers to. Since claims 3 and 17 depend from claim 2, they are subsumed under the rejection.

Allowable Subject Matter

12. The general subject matter of claim 1 is novel over the prior art. The claim is drawn to a tire comprised of an elastomer comprised of 30-80 phr of styrene/butadiene elastomer composite, at least 30 phr of *cis*-1,4-polybutadiene rubber, and 0-15 phr of an additional diene-based elastomer, as well as conventional particulate reinforcement and coupling agent. Notably, the styrene/butadiene elastomer composite is a composite of 35-55 wt % of styrene/butadiene copolymer (SBR-1) and 35-65 wt % of a functional styrene/butadiene copolymer (SBR-2) which contains at least one silanol/siloxy group that links two segments of (SBR-2), designated (SBR-2A) and (SBR-2B). In addition, the composite may contain 0-10 wt % of at least one additional styrene/butadiene copolymer (SBR-3) appended to the silanol/siloxy group. See claim for further details of each SBR component.

The closest references unearthed in a search of the prior art are U.S. Patent No. 6,071,995 to Labauze, U.S. 2003/0078335 to Hogan *et al.*, JP 2001-98115 to Nakamura, and KR 2001-17712 to Cho.

Labauze teaches a rubber composition comprising at least one functionalized diene polymer having at the end of its chain a silanol function or a diene polymer modified along its chain by silanol functions. The silanol group does not link two SBR segments as recited in the present claims.

Hogan *et al.* discloses a polymeric sulfide compound having the formula $(PS)_nMP'_{z+n}$, wherein P is a polymer chain, S is a sulfur atom, central atom M is silicon, and P′ is a secondary polymer chain identical to or different from P. The polymer has a similar construction to that of the present claims in that it is a star polymer of sorts, but it is not identical due to the presence of the sulfur atoms in the chain.

Nakamura teaches a tire tread having a rubber composition comprised of at least 20 wt % of a styrene/butadiene rubber coupled with silicon and having M_n of 35-60 X 10^4. The reference does not teach the exact styrene/butadiene composite of the present claims.

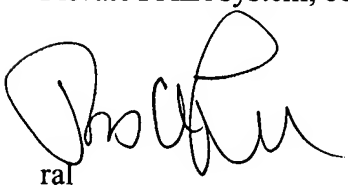
Cho discloses a tire tread composition comprised of 50-95 wt % of solution polymerized silicon-coupled styrene/butadiene rubber, 5-40 wt % of solution polymerized tin-coupled styrene/butadiene rubber, 30-70 pw of carbon black, 20-60 pw of silica, and 5-10 p of coupling agent. The reference does not teach the exact styrene/butadiene composite or the particulate reinforcement of the present claims.

As such, none of the cited references teaches or fairly suggests the subject matter of the present claims, and therefore, one of ordinary skill in the art would not have found it obvious to arrive at the present invention based on the teachings of the prior art.

For purposes of completing PTO-326, the status of claims 7, 8, 11, 14, 15, and 18-20 is that they are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rip A. Lee whose telephone number is (571)272-1104. The examiner can be reached on Monday through Friday from 9:00 AM - 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached at (571)272-1114. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on the access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).



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January 14, 2005